



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,789	11/14/2003	Alastair James Buchanan	1-24912	8772

46582 7590 02/23/2007  
MACMILLAN, SOBANSKI & TODD, LLC  
ONE MARITIME PLAZA - FOURTH FLOOR  
720 WATER STREET  
TOLEDO, OH 43604

EXAMINER
----------

MANCHO, RONNIE M

ART UNIT	PAPER NUMBER
----------	--------------

3663

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/713,789

Applicant(s)

ALASTAIR JAMES BUCHANAN

Examiner

Ronnie Mancho

Art Unit

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/30/06</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 6, 11, 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. In claim 2, the phrase “is projected to be in when at the point of the target vehicle” confuses the scope of the claim. The phrase is believed to be a run-on phrase that confuses the limitations of the invention.

In claim 6, it is not clear what all is meant and encompassed by the phrases “an edge detected pointing of lane boundaries” and “an image plane to the real world plane”. Applicant can be their own lexicographer, but impermissible to recite language other than that known in the art without providing the meaning thereof.

In claim 11, the applicant recites “comparing that”. What is that?

In claim 15, the phrase “may predict the path” is optional and does not set forth the invention applicant is seeking protection thereof. It is further not clear what all is meant and encompassed by the phrases “a short while”, and “will shortly change”. Does a short while imply one millisecond, an hour or two hours, etc ?

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Sawamoto et al (EP 0890470 A2).

Regarding claim 1, Sawamoto et al (abstract) disclose a target object sensing apparatus for a host vehicle, the apparatus comprising:

a lane detection apparatus provided on the host vehicle which includes an image acquisition apparatus configured adapted to capture an image of at least a part of the road ahead of the host vehicle (col. 6, lines 10 et. seq., line 33);

a vehicle path estimation apparatus configured to estimate a projected path for the host vehicle (e.g. col. 7, lines.28 to 54, abstract);

a target vehicle detection means located on the host vehicle which is configured to identify the position of any target vehicles located on the road ahead of the host vehicle (Figs. 3&4), the position including data representing the distance of the target vehicle from the host vehicle (col. 5, lines 50-54);

first data processing apparatus configured to predict a target lane (abstract, fig. 3 and 4) in which the host vehicle will be located when it has traveled along the projected path by the distance to the target object (col. 9, lines 14-44 et. seq., fig. 7);

Art Unit: 3663

second processing apparatus configured to compare the position of the target vehicle determined by the target detection apparatus with the position of the target lane to provide a processed estimate of the actual position of the target object (col.7, lines 38 et seq., col. 9 lines 43 et seq.) .

Note! From fig. 7 in combination with the corresponding part of the description on page 9, line 44 etc, it is clear for the person skilled in the art, that the calculation means of the prior art are able to predict the position of the host vehicle in a future path (in particular lines 51 etc). This implies that also the position of the host vehicle can be estimated, when it has traveled by the distance to the target object.

In the prior art, the positions of all participants (host and target vehicles) are plotted in a absolute system of coordinates (col. 7 and col. 9) in order to be able to compare distances of objects on real and estimated paths.

Regarding claims 2-23, the prior art also anticipates the limitations therein. These claims suggest only slight constructional changes in the device of claim 1 which comes within the scope of one of high skill in the art. It is also admitted by the applicant in the arguments

### ***Response to Arguments***

6. Applicants' arguments filed 11/30/06 have been fully considered, but are not persuasive.

The applicants argue are repeating argument already addressed in the last office action. The responses to the previous arguments are hereby incorporated by reference.

Art Unit: 3663

The examiner further notes that the host vehicle of the prior art maintains an identified distance behind a target vehicle in a predicted lane. After the host vehicle of the prior art goes past the distance it maintains the same lane it is in. Therefore the prior has predicted a target lane in which the host vehicle will be located when it has traveled along the projected path by a distance to the target object. It is believed that the applicant has erred in the interpretation of the prior art.

Applicant further argues that the prior art does not predict the target lane. The examiner believes the applicant has erred in the interpretation of the prior art. It is noted that the prior art predicts in the same manner as disclosed in the applicants specification. Applicant uses the word predict in the disclosure, but does not particularly disclose how prediction is done. On the other hand, as known in the art, the phrase -- path estimation --, --projected path -- are examples of prediction that the applicant recites in the background section referring to the prior art.

The applicant further recite that the phrase, “when it has traveled along the projected path by the distance to the target object”. By the same token applicant admits that the prior Sawamoto calculates a future path. Applicant’s remarks, page 9, last paragraph. It is not clear what applicant is really arguing here when applicant admits that the prior estimates a path. The applicant further recites that the prior assumes that “the host vehicle WILL TRAVEL in this new lane”. See applicant’s argument page 11 last two sections. These are all future tenses contrary to applicant’s argument that the tenses in Sawamoto are in present tense.

Applicant’s arguments are a repeat of arguments already addressed.

It is believed that the prior art still reads on the claims. The rejection therefore stands.

Art Unit: 3663

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Communication***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronnie Mancho whose telephone number is 571-272-6984. The examiner can normally be reached on Mon-Thurs: 9-5.

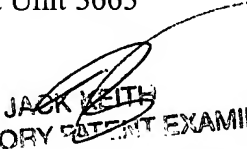
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ronnie Mancho  
Examiner  
Art Unit 3663

2/17/07

  
JACK KEITH  
SUPERVISORY PATENT EXAMINER